California Resources Agency Workshop on LNG Access Issues and Deliverability of Supply

Overview of Onshore Natural Gas Infrastructure

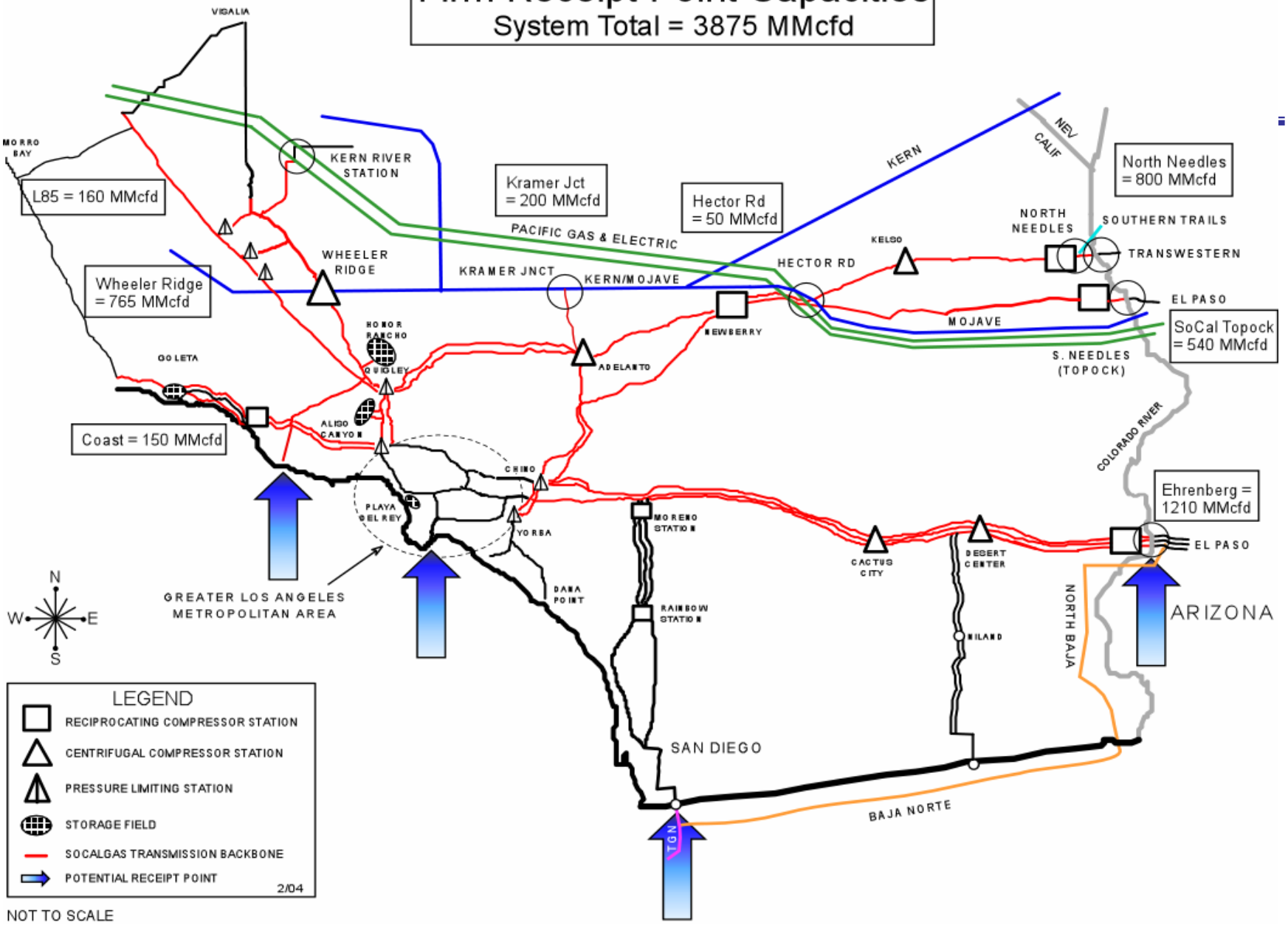
John Dagg
Director of Gas Operations
SDG&E/SoCalGas

June 1, 2005

Overview

- SoCalGas
  - Serves 18 million people thru 5.4+ million gas meters in Southern California less City of Long Beach, San Diego County, Southwest Gas area and PG&E area
- SDG&E
  - 800,000+ gas meters in San Diego County
- Operate as an integrated system
  - Transmission pipe. Approx. – 3,400 mi. SoCalGas, 170 mi. SDG&E
  - Compressor Stations – 10 SoCalGas, 2 SDG&E
  - 4 SoCalGas Storage Fields

Firm Receipt Point Capacities
System Total = 3875 MMcfd



NOT TO SCALE

Receipt Point Capacities

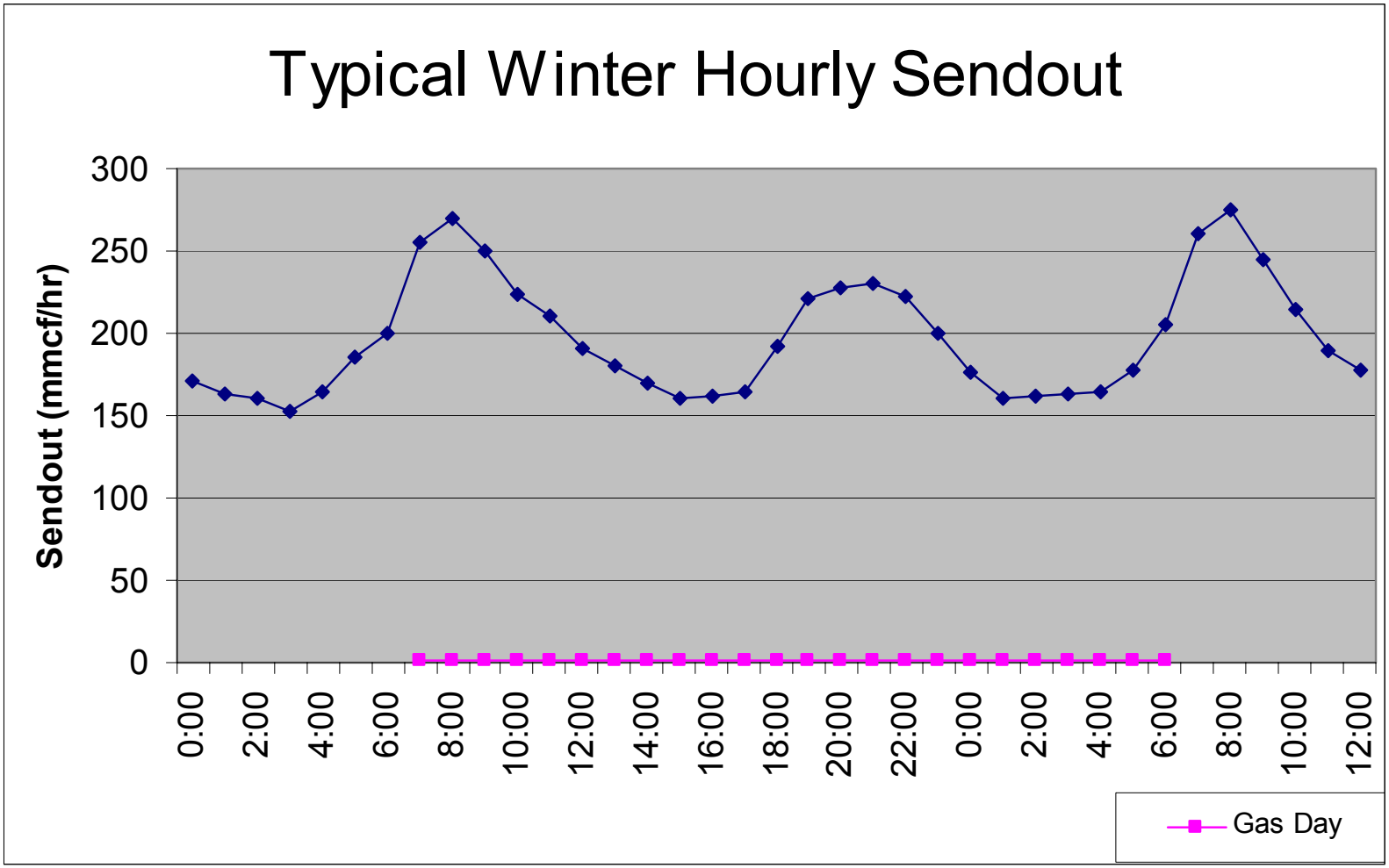
			Capacity mmcfd
•	South System Blythe El Paso		1210
•	North System		1590
	• South Needles El Paso	540	
	• South Needles Transwestern	190	
	• North Needles Transwestern	800	
	• North Needles Southern Trails	120	
	• Hector Rd Mojave	200	
	• Kramer Junction Kern River	500	
•	SJV L225 System		765
	• Wheeler Ridge Kern/Mojave	765	
	• KRS PG&E	520	
	• Gosford Occidental	150	
•	SJV L85 System Producers		160
•	Coastal System Producers		150
Total System Firm			**3875**

SoCalGas Underground Gas Storage

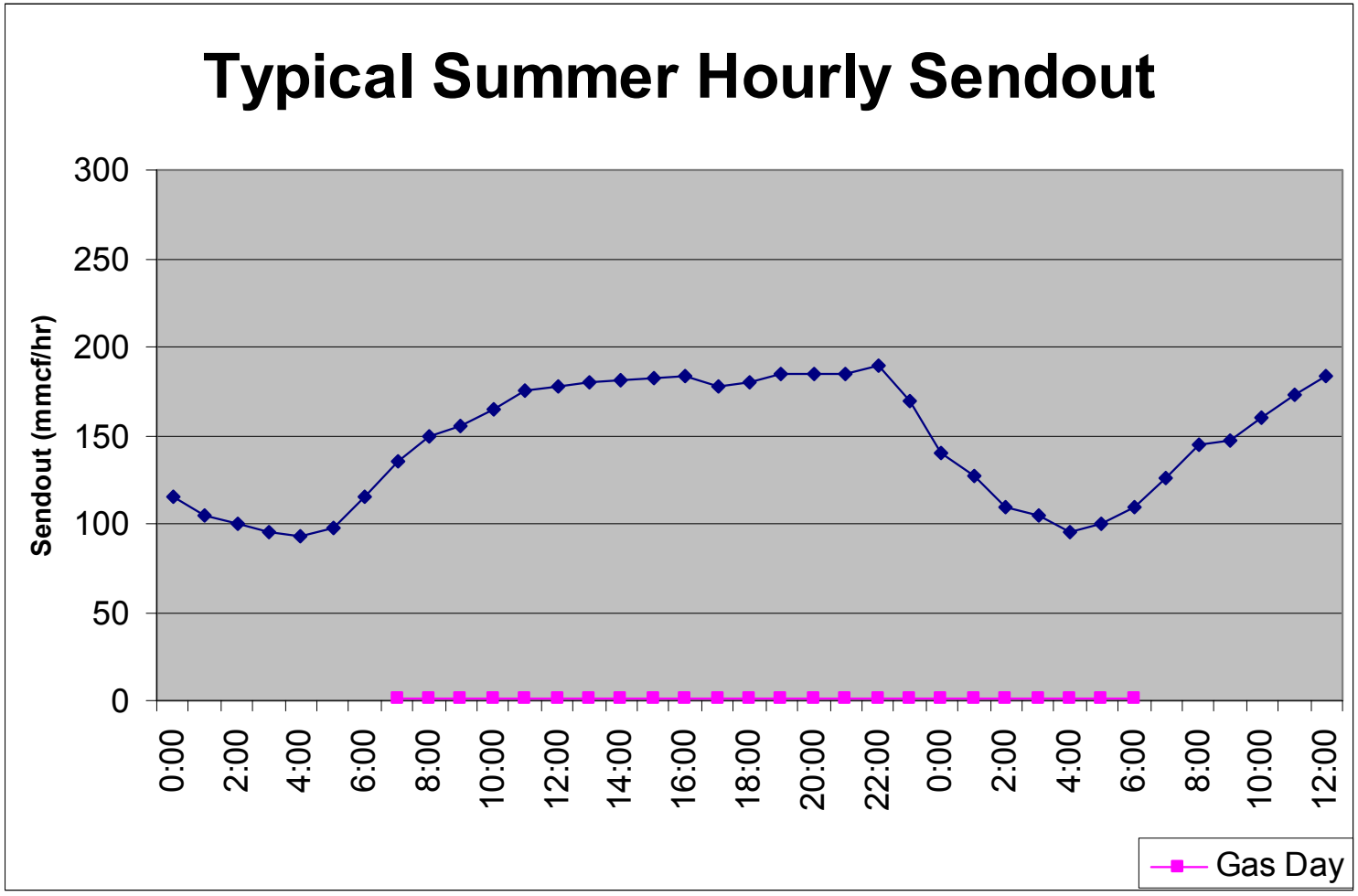
	Inventory (Bcf)	Min. Injection (mmscf/d)	Max. W/d (mmscf/d)
• Aliso Canyon			
• Honor Rancho			
• La Goleta			
• Playa del Rey			
Total	122.1	850	3125

Planning Criteria and System Demand

- 1 in 35 Year Cold Day for Core
- 1 in 10 Year Cold Day for Firm Non-Core
- System demand ranges from 1.9 to 5 BCF/D


Typical Winter Hourly Sendout
Sendout (mmcf/hr)
300
250
200
150
100
50
0
0:00
2:00
4:00
6:00
8:00
10:00
12:00
14:00
16:00
18:00
20:00
22:00
0:00
2:00
4:00
6:00
8:00
10:00
12:00
Gas Day

Typical Summer Hourly Sendout



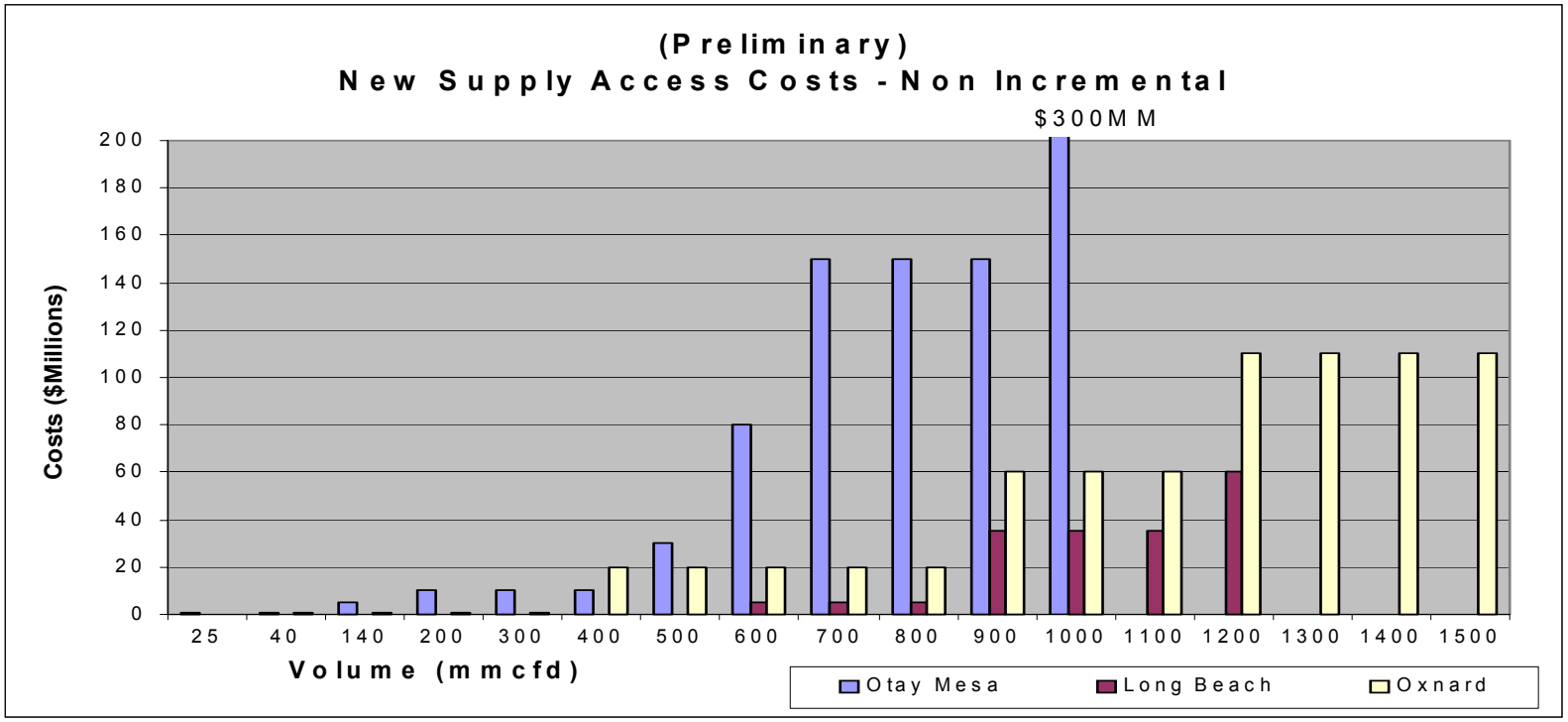
Operations

- Demand Forecast; Facility Shutdowns

- Commit to System take away capacity (Window) 7AM day before “gas day”
  - Sum of demand forecast plus available injection
  - 4 cycles for Gas Scheduling – 2 day before “gas day”, 2 day of

- Manage System
  - Demand
  - Flowing supplies, storage w/d or inj., pipeline pack/draft
  - Safety, reliability, efficiency
  - Operate within min. and max. pressures

New Supply Access Costs



- Not Incremental
- New sources do not add to the existing 3875 mmcfd receipt point capacity and are allowed to displace existing sources
- Costs Increase Substantially if New Supply Capacity is in Addition to Existing Receipt Point Capacity